

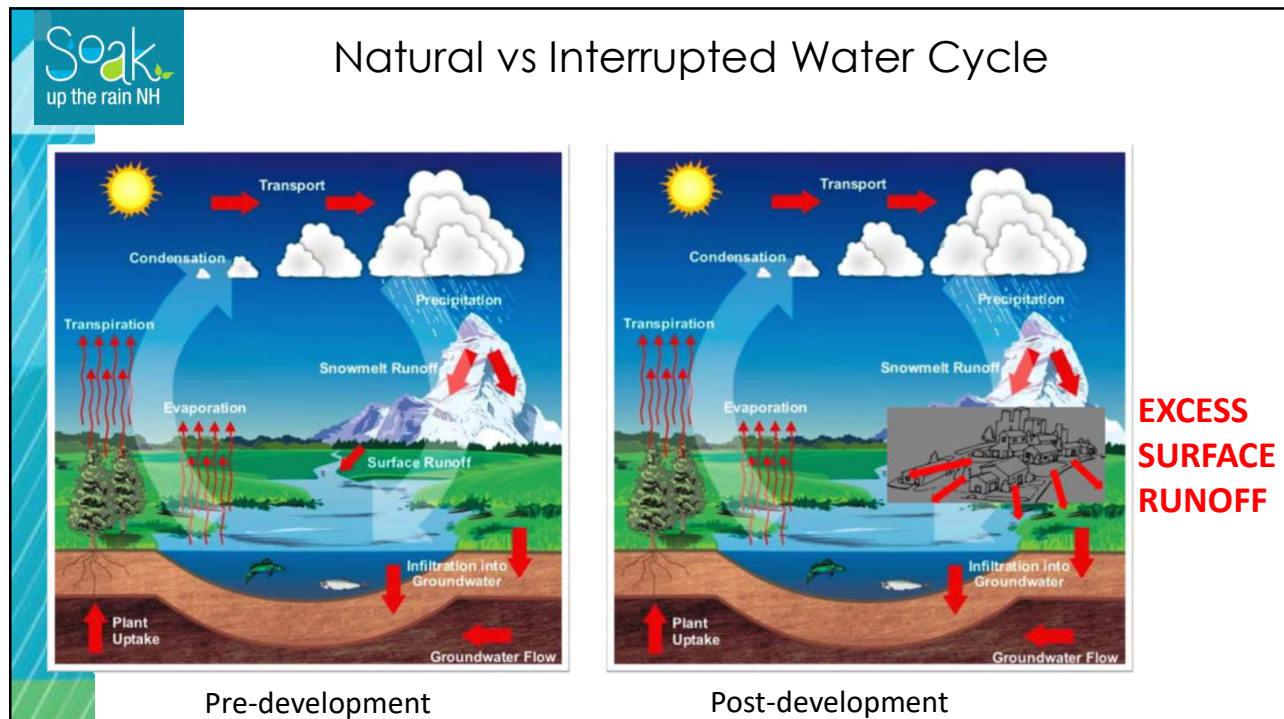


Your land. Your water. Your solution.


Lisa Loosigian
NH Department of Environmental Services

Sunrise Lake

June 5, 2021









Credit: Think Blue A

stormwater runoff

Water from rain or melting snow that doesn't soak into the ground.


stormwater runoff carries pollutants






Runoff Carries Pollutants


Directly from lawn/yard to lake




From unconsolidated roads



Over pavement



Through eroded areas



Soak
up the rain NH

Sources of Residential Runoff



Soak
up the rain NH

Pollutant Examples

Sediment

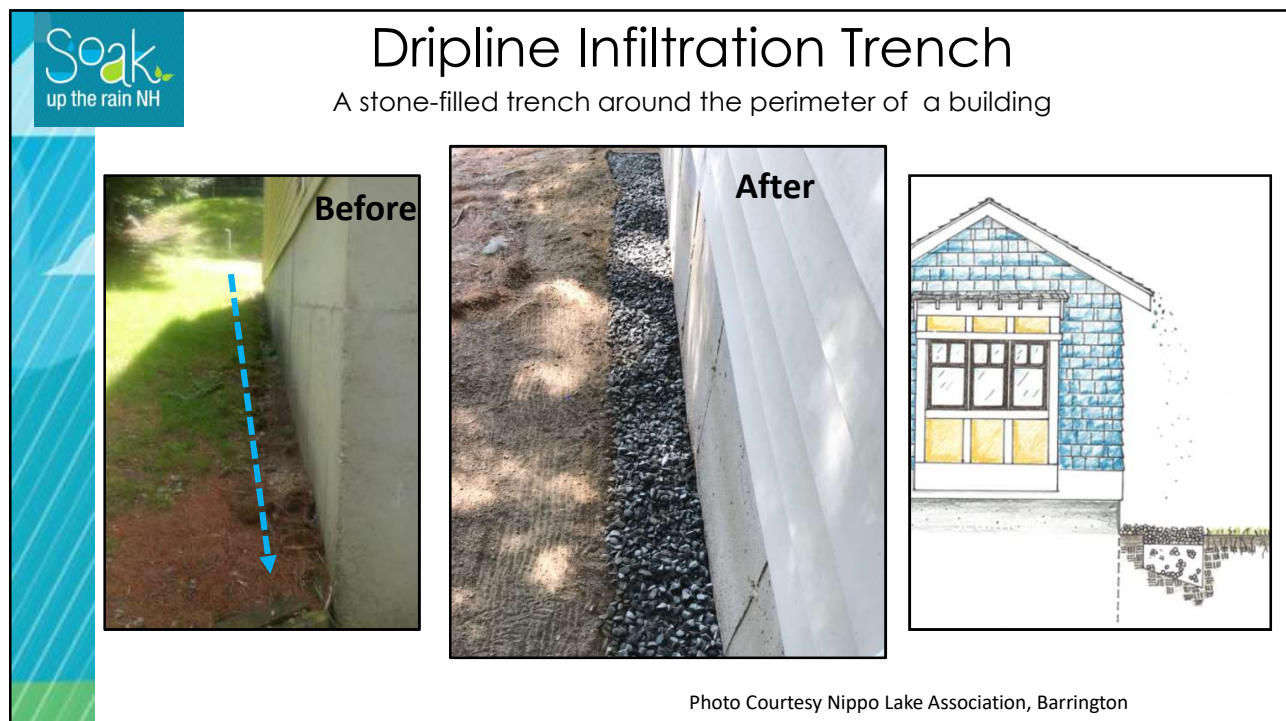


Nutrients



Bacteria







Driveway Infiltration Trench

A stone-filled trench along the edge of a driveway.

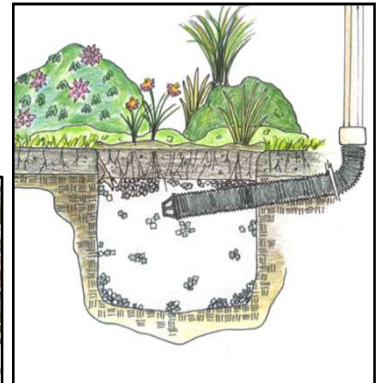


In this case, at Phillips Exeter Academy, water was flowing from road onto this property and eroding the side yard.



Dry Well

Classic hole in the ground filled with stone.

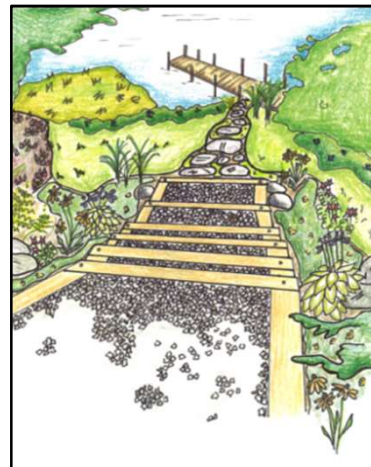
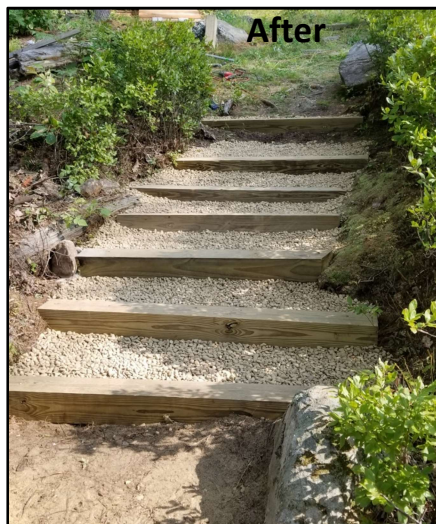


Project Partner: Great Bay Stewards, Greenland



Infiltration Steps

Stabilize sloped paths, reduces erosion.



Project partner: Friends of
Hothole Pond, Loudon



Porous Pavers

Stone reservoirs under pavers.



AKA geo grids or
grass pavers, etc.



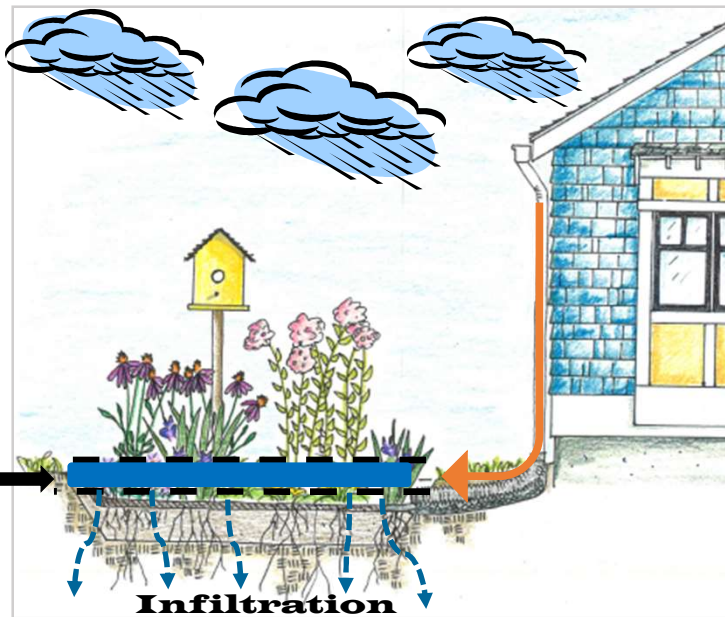
Rain Garden

A sunken, flat-bottomed garden designed to capture rain water



Rain Garden

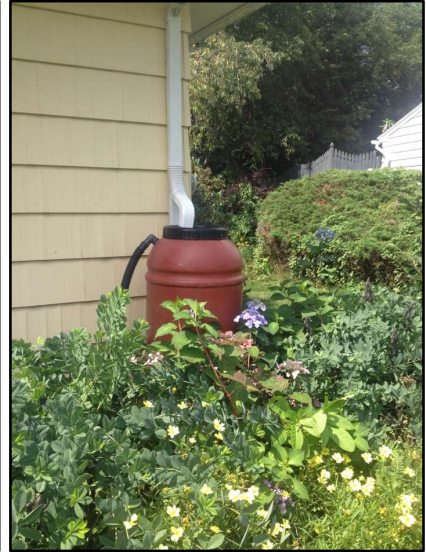
**PONDING
AREA**





Rain Barrel

Captures and stores rainwater from a roof for later use.

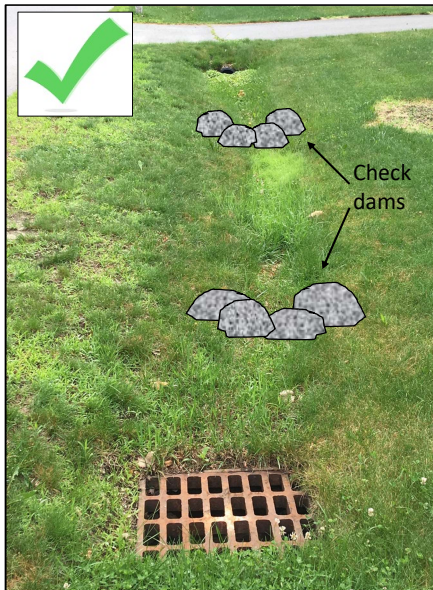
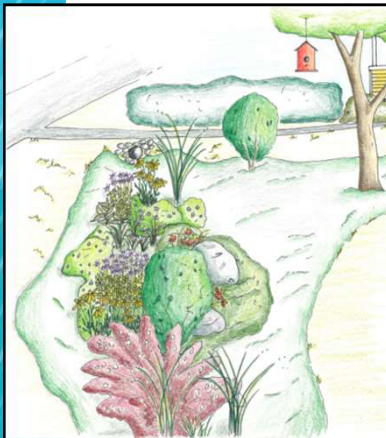


Project partner: Great Bay Stewards, Greenland



Vegetated Swale

A shallow channel filled with plants to slow flow





Water Bar

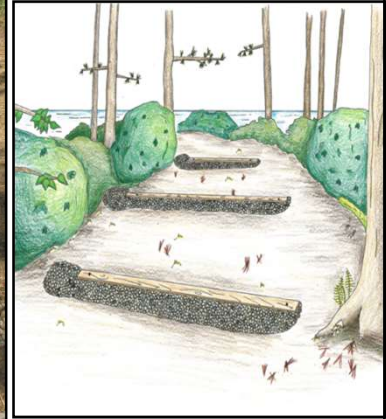
Intercepts and diverts water traveling down paths.



Before



After



Project partner: Green Mountain Conservation Group, Freedom



Water Bar - Rubber Razor

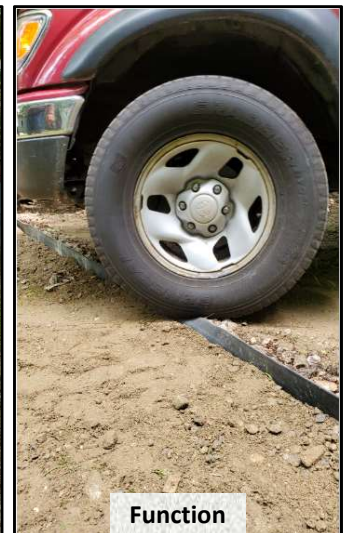
Conveyor belt material sandwiched between lumber and protruding above grade



Construction



Installation




Function

Project partner: Nippo Lake Association, Barrington


Soak
up the rain NH

Vegetated Buffer


Vegetation between landscaped area and water



Planted Buffer
Wentworth Lake,
Wolfeboro



Natural Buffer
Pleasant Lake,
Deerfield



Soak
up the rain NH

Good Housekeeping Tips



Vehicle maintenance:
Leak prevention



Responsible lawn care




Native gardens and natural areas preferred over lawns



Commercial Car Washes reclaim/treat wash water




Winter: less salt/more sand??



Step-by-step instructions

INFILTRATION STEPS

Infiltration steps slow down and infiltrate runoff on moderate slopes to reduce erosion and define walking paths. They are well-suited for shoreline properties.



SIZING AND DESIGN

STEP 1. Measure the slope. Measure the overall rise and run of the area in inches (Figure 1).

STEP 2. Determine the number of steps needed. Divide the rise of the slope (measured in Step 1) by the height of the timber (6" unless you are using different sized timbers) and round to the nearest whole number. This is the number of steps you will need.

RISE ÷ TIMBER HEIGHT = NUMBER OF STEPS

STEP 3. Determine step depth (bread). Divide the run of the slope by the number of steps (figured in Step 2). The depth of the step tread is flexible, but should be at least 15" to be comfortable to walk up and down.

RUN ÷ NUMBER OF STEPS = DEPTH OF STEP TREAD

STEP 4. Determine the width of the steps. A comfortable width is usually 4 feet, but depending on the topography, trees, or other site conditions, a wider or narrower step may be desired.

EQUIPMENT & MATERIALS

- Measuring tape
- Shovel
- Sledge hammer
- 4 Wooden stakes
- String or spray paint
- 1/2" crushed stone or pea stone
- Non-woven geotextile fabric
- 6" x 6" pressure treated timbers (or similar sized material such as granite or logs)
- 18" long pieces of 1/2" diameter steel rebar
- Level
- Power drill with 1/2" drill bit
- 12" galvanized spikes


www.soaknh.org



Dry Well Greenland
2014
22 images



Rain Garden and Driveway Trench PE
2016
22 images



Rain Garden and Landscaper Training, Hampton
2015
27 images

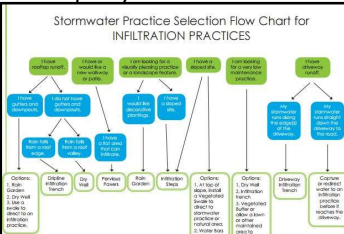


Rain Garden Durham Residential
2015
40 images







Photo galleries & stories


Property assessment tools

Stormwater Practice Selection Flow Chart for INFILTRATION PRACTICES




Rain garden planning

Scientific Name Common Name	Rain Garden Zone		Sun Exposure	Soil Moisture	Season Period & Color		Mature Size	
	Zone 1	Zone 2			Zone 1	Zone 2	Height	Spread
 <i>Eupatorium purpureum</i> Common Joe Pye weed	•		☀️	💧	•	•	3-6'	3'
 <i>Geranium clovea</i> Clove geranium or Hebe geranium	•		☀️	💧	•	•	1-3'	1-2'
 <i>Geranium maculatum</i> Spotted cranes bill	•		☀️	💧	•	•	1'	1-1.5'
 <i>Helenium autumnale</i> Common Helenium	•		☀️	💧	•	•	2-5'	3'
 <i>Ruellia verticillata</i> Blue to or Blue flag	•		☀️	💧	•	•	2-3'	2-3'
 <i>Lobelia cardinalis</i> Cardinal flower	•		☀️	💧	•	•	2-4'	2'




Quiz – Is This You?


Runoff to collection system?



Sand/soil/sediment moving to lake?



No buffer?



Eroded path to the lake?



If so...sign up for a site visit!
Or check us out at www.soaknh.org



Site Visit Sign-up Sheet

Name	Address	Email and phone number	Runoff or Erosion issue? Yes/No and Notes



Rain Garden. Partner: Great Bay Stewards



Infiltration Pad. Partner: Wentworth Watershed Assoc.

QUESTIONS?

www.soaknh.org

Facebook: SoakNH

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Dry Well. Partner: Great Bay Stewards



Infiltration Trench. Partner: Green Mtn Conservation Group